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SEQUENCE LISTING

TECH CENTER 1600/2900

<110> Wang, Huaming
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Rodrigues, Ana
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<120> Phenol Oxidizing Enzyme Variants

<130> GC584-2

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<141> 2000-09-07

<160> 8

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 1958
<212> DNA
<213> Stachybotrys chartarum

<400> 1

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 <211> 583
 <212> PRT
 <213> *Stachybotrys chartarum*

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Met Pro Ser Gly Leu Thr Lys Arg Gln Thr Gln Leu Ser Pro Pro Leu						
35	40	45				
Ala Leu Tyr Glu Val Pro Leu Pro Ile Pro Pro Leu Lys Ala Pro Asn						
50	55	60				
Thr Val Pro Asn Pro Asn Thr Gly Glu Asp Ile Leu Tyr Tyr Glu Met						
65	70	75	80			
Glu Ile Arg Pro Phe Ser His Gln Ile Tyr Pro Asp Leu Glu Pro Ala						
85	90	95				
Asn Met Val Gly Tyr Asp Gly Met Ser Pro Gly Pro Thr Ile Ile Val						
100	105	110				
Pro Arg Gly Thr Glu Ser Val Val Arg Phe Val Asn Ser Gly Glu Asn						
115	120	125				
Thr Ser Pro Asn Ser Val His Leu His Gly Ser Phe Ser Arg Ala Pro						
130	135	140				
Phe Asp Gly Trp Ala Glu Asp Thr Thr Gln Pro Gly Glu Tyr Lys Asp						
145	150	155	160			
Tyr Tyr Tyr Pro Asn Arg Gln Ala Ala Arg Met Leu Trp Tyr His Asp						
165	170	175				
His Ala Met Ser Ile Thr Ala Glu Asn Ala Tyr Met Gly Gln Ala Gly						
180	185	190				
Val Tyr Met Ile Gln Asp Pro Ala Glu Asp Ala Leu Asn Leu Pro Ser						
195	200	205				
Gly Tyr Gly Glu Phe Asp Ile Pro Leu Val Leu Thr Ala Lys Arg Tyr						
210	215	220				
Asn Ala Asp Gly Thr Leu Phe Ser Thr Asn Gly Glu Val Ser Ser Phe						
225	230	235	240			
Trp Gly Asp Val Ile Gln Val Asn Gly Gln Pro Trp Pro Met Leu Asn						
245	250	255				
Val Gln Pro Arg Lys Tyr Arg Phe Arg Phe Leu Asn Ala Ala Val Ser						
260	265	270				
Arg Ser Phe Ala Leu Tyr Leu Ala Thr Ser Glu Asp Ser Glu Thr Arg						
275	280	285				
Leu Pro Phe Gln Val Ile Ala Ala Asp Gly Gly Leu Leu Glu Gly Pro						
290	295	300				
Val Asp Thr Asp Thr Leu Tyr Ile Ser Met Ala Glu Arg Trp Glu Val						
305	310	315	320			
Val Ile Asp Phe Ser Thr Phe Ala Gly Gln Ser Ile Asp Ile Arg Asn						
325	330	335				
Leu Pro Gly Ala Asp Gly Leu Gly Val Glu Pro Glu Phe Asp Asn Thr						
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Asp Lys Val Met Arg Phe Val Val Asp Glu Val Leu Glu Ser Pro Asp						
355	360	365				
Thr Ser Glu Val Pro Ala Asn Leu Arg Asp Val Pro Phe Pro Glu Gly						

370	375	380
Gly Asn Trp Asp Pro Ala Asn Pro Thr Asp Asp Glu Thr Phe Thr Phe		
385	390	395
Gly Arg Ala Asn Gly Gln Trp Thr Ile Asn Gly Val Thr Phe Ser Asp		
405	410	415
Val Glu Asn Arg Leu Leu Arg Asn Val Pro Arg Asp Thr Val Glu Ile		
420	425	430
Trp Arg Leu Glu Asn Asn Ser Asn Gly Trp Thr His Pro Val His Ile		
435	440	445
His Leu Val Asp Phe Arg Val Leu Ser Arg Ser Thr Ala Arg Gly Val		
450	455	460
Glu Pro Tyr Glu Ala Ala Gly Leu Lys Asp Val Val Trp Leu Ala Arg		
465	470	475
Arg Glu Val Val Tyr Val Glu Ala His Tyr Ala Pro Phe Pro Gly Val		
485	490	495
Tyr Met Leu His Cys His Asn Leu Ile His Glu Asp His Asp Met Met		
500	505	510
Ala Ala Phe Asn Val Thr Val Leu Gly Asp Tyr Gly Tyr Asn Tyr Thr		
515	520	525
Glu Phe Ile Asp Pro Met Glu Pro Leu Trp Arg Pro Arg Pro Phe Leu		
530	535	540
Leu Gly Glu Phe Glu Asn Gly Ser Gly Asp Phe Ser Glu Leu Ala Ile		
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Thr Asp Arg Ile Gln Glu Met Ala Ser Phe Asn Pro Tyr Ala Gln Ala		
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<210> 3
 <211> 2095
 <212> DNA
 <213> *Stachybotrys chartarum*

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gatcggcggc agctctgtcg atgccagatc cgttgtgtt cgatcgacag acatgccttc	180
cggcttcacc aagaggcaga cgccagctgag tcctccctg gccttgtacg aagtgcctct	240
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gtttgtcccg cttcgtgaac agcggagaga acacctctcc caacagcgtc cacttgcacg	540
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acaaggatta ctactacccc aacaggcagg ctgccccat gcttggtagt catgaccatg	660
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<210> 4

<211> 572

<212> PRT

<213> Myrothecium verucaria

<400> 4

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								20		25				30	
Gly	His	Leu	Phe	Lys	Arg	Val	Ala	Gln	Ile	Ser	Pro	Gln	Tyr	Pro	Met
					35				40				45		
Phe	Thr	Val	Pro	Leu	Pro	Ile	Pro	Pro	Val	Lys	Gln	Pro	Arg	Leu	Thr
						50			55			60			
Val	Thr	Asn	Pro	Val	Asn	Gly	Gln	Glu	Ile	Trp	Tyr	Tyr	Glu	Val	Glu
						65			70		75		80		
Ile	Lys	Pro	Phe	Thr	His	Gln	Val	Tyr	Pro	Asp	Leu	Gly	Ser	Ala	Asp
						85			90			95			
Leu	Val	Gly	Tyr	Asp	Gly	Met	Ser	Pro	Gly	Pro	Thr	Phe	Gln	Val	Pro
						100			105			110			
Arg	Gly	Val	Glu	Thr	Val	Val	Arg	Phe	Ile	Asn	Asn	Ala	Glu	Ala	Pro
						115			120			125			
Asn	Ser	Val	His	Leu	His	Gly	Ser	Phe	Ser	Arg	Ala	Ala	Phe	Asp	Gly
						130			135			140			
Trp	Ala	Glu	Asp	Ile	Thr	Glu	Pro	Gly	Ser	Phe	Lys	Asp	Tyr	Tyr	Tyr
						145			150		155		160		
Pro	Asn	Arg	Gln	Ser	Ala	Arg	Thr	Leu	Trp	Tyr	His	Asp	His	Ala	Met
						165			170			175			
His	Ile	Thr	Ala	Glu	Asn	Ala	Tyr	Arg	Gly	Gln	Ala	Gly	Leu	Tyr	Met
						180			185			190			
Leu	Thr	Asp	Pro	Ala	Glu	Asp	Ala	Leu	Asn	Leu	Pro	Ser	Gly	Tyr	Gly
						195			200			205			
Glu	Phe	Asp	Ile	Pro	Met	Ile	Leu	Thr	Ser	Lys	Gln	Tyr	Thr	Ala	Asn
						210			215			220			
Gly	Asn	Leu	Val	Thr	Thr	Asn	Gly	Glu	Leu	Asn	Ser	Phe	Trp	Gly	Asp
						225			230		235		240		
Val	Ile	His	Val	Asn	Gly	Gln	Pro	Trp	Pro	Phe	Lys	Asn	Val	Glu	Pro
						245			250			255			
Arg	Lys	Tyr	Arg	Phe	Arg	Phe	Leu	Asp	Ala	Ala	Val	Ser	Arg	Ser	Phe
						260			265			270			
Gly	Leu	Tyr	Phe	Ala	Asp	Thr	Asp	Ala	Ile	Asp	Thr	Arg	Leu	Pro	Phe
						275			280			285			
Lys	Val	Ile	Ala	Ser	Asp	Ser	Gly	Leu	Leu	Glu	His	Pro	Ala	Asp	Thr
						290			295			300			

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 Phe Ser Asp Tyr Ala Gly Lys Thr Ile Glu Leu Arg Asn Leu Gly Gly
 325 330 335
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 340 345 350
 Val Met Arg Phe Val Val Ala Asp Asp Thr Thr Gln Pro Asp Thr Ser
 355 360 365
 Val Val Pro Ala Asn Leu Arg Asp Val Pro Phe Pro Ser Pro Thr Thr
 370 375 380
 Asn Thr Pro Arg Gln Phe Arg Phe Gly Arg Thr Gly Pro Thr Trp Thr
 385 390 395 400
 Ile Asn Gly Val Ala Phe Ala Asp Val Gln Asn Arg Leu Leu Ala Asn
 405 410 415
 Val Pro Val Gly Thr Val Glu Arg Trp Glu Leu Ile Asn Ala Gly Asn
 420 425 430
 Gly Trp Thr His Pro Ile His Ile His Leu Val Asp Phe Lys Val Ile
 435 440 445
 Ser Arg Thr Ser Gly Asn Asn Ala Arg Thr Val Met Pro Tyr Glu Ser
 450 455 460
 Gly Leu Lys Asp Val Val Trp Leu Gly Arg Arg Glu Thr Val Val Val
 465 470 475 480
 Glu Ala His Tyr Ala Pro Phe Pro Gly Val Tyr Met Phe His Cys His
 485 490 495
 Asn Leu Ile His Glu Asp His Asp Met Met Ala Ala Phe Asn Ala Thr
 500 505 510
 Val Leu Pro Asp Tyr Gly Tyr Asn Ala Thr Val Phe Val Asp Pro Met
 515 520 525
 Glu Glu Leu Trp Gln Ala Arg Pro Tyr Glu Leu Gly Glu Phe Gln Ala
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 565 570

<210> 5
 <211> 21
 <212> PRT
 <213> Stachybotrys chartarum

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<210> 6
 <211> 18
 <212> PRT
 <213> Stachybotrys chartarum

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<210> 7
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<212> DNA
<213> Artificial Sequence

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<223> n = A,T,C or G

<400> 7
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<210> 8
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<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<221> misc_feature
<222> (12)...(18)
<223> n = A,T,C or G

<400> 8
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